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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,533	08/08/2001	Daisuke Nohara	Q65728	2113

7590 06/18/2003
SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

WYROZEBSKI LEE, KATARZYNA I

ART UNIT PAPER NUMBER

1714

DATE MAILED: 06/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,533

Applicant(s)

NOHARA ET AL.

Examiner

Katarzyna Wyrozebski Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

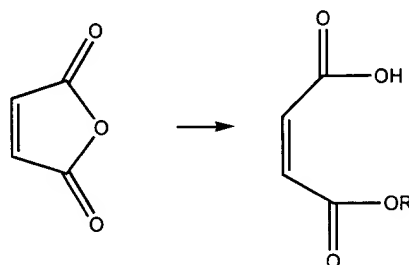
2. Claims 1-4, 9-11, 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by IGARASHI (JP 04-020579).

The prior art of Igarashi discloses additive for inorganic fillers in rubber composition, which additive allows better dispersion of the inorganic reinforcing filler.

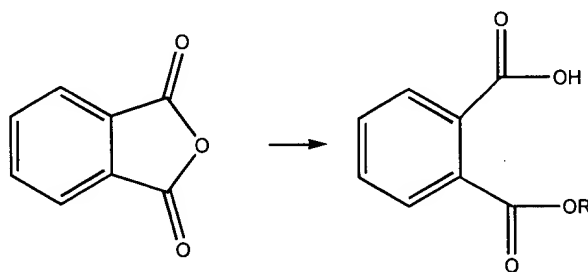
The reinforcing filler is carbon black utilized in amount of 50-99 wt % (Table p. 659). The rubber composition of Igarashi is subjected to vulcanization. Rubber composition, comprises natural rubber, the additive, carbon black stearic acid, zinc flour, sulfur and thiazole compound.

The additive as utilized in Table on page 658 in examples 8-12 utilizes aliphatic as well as aromatic compounds. Specifics include maleic acid anhydride, anhydride phthalic acid, nonenyl anhydride succinic acid and dodecyl anhydride succinic acid. The degree of esterification of the compound is less than 80% so that it would contain a COOH group. The example of the formula are as follows:

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or for aromatic compound



wherein the prior art of IGARASHI applies as 102 if the integers are 1 and R5 on the aromatic ring is hydrogen. One of the compounds utilized in the transesterification as Abstract indicates is diethylene glycol. Therefore R group can also an ether terminated with long chain fatty acid that has 8-28 carbon atoms.

In the light of the above disclosure the prior art of IGARASHI anticipates requirements of claims rejected above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 5-8, 10-13, 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over NOHARA (US 6,008,304).

The discussion of the disclosure of the prior art of IGARASHI from paragraph 2 of this office action is incorporated here by reference.

The difference between the present invention and the prior art of IGARASHI is polyoxyethylene substituent on the additive compound having degree of polymerization higher than 1, more than one repeat unit of carboxylic acid, acid/ester ratios of 70/30, amount of the additive and the use of rubber composition in pneumatic tire.

With respect to the above differences, the prior art of NOHARA discloses additive for rubber composition, which is used to masticate rubber composition. Claims of the prior art of NOHARA disclose chemical formulas of the additives utilized.

The compound of formula IV in line 50-58, discloses aromatic additive wherein the aromatic ring is substituted with carboxylic acid moiety having "m" amount of repeat units. The second substituents $-(COXR^6)_n$ X can be oxygen, NR^8 group or $(OR^9)_q$ wherein R^9 is alkyl group having 1-4 carbon atoms. If utilizing group (OR^9) q-time, one will have polyoxyalkylene group having q-degree of polymerization. The additive is utilized in the amount of 0.05-20 wt % per 100 parts of rubber.

Since the integers and the utilized in the prior art of NOHARA lie squarely in the middle of the integers of the present invention, their sums will also overlap by default.

The prior art of NOHARA just like that of IGARASHI discloses an additive to the rubber composition, which when utilized improves dispersability of the inorganic reinforcing filler in

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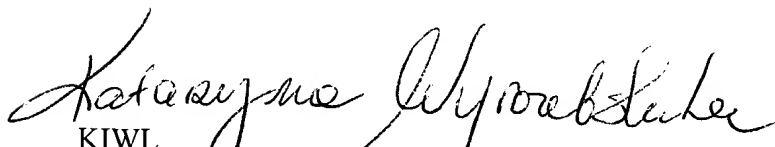
the rubber matrix. Using polyalkoxylated substituents in the composition of IGAHARA would therefore not affect the properties of the compound.

In the light of the above disclosure, having read and understood the two references, it would have been obvious to one having ordinary skill in the art to utilize the polyalkoxylated substituents of NOHARA in the additive of IGARASHI and still obtain compound that would aid dispersability of the inorganic reinforcing filler. It would also have been obvious to utilize the composition containing such additive in making pneumatic tires, since the prior art of IGARASHI teaches that such additive is utilized to disperse inorganic carbon black into the vulcanizable rubber composition where at the same time all tires are vulcanized.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski Lee whose telephone number is (703) 306-5875. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


KIWL
June 12, 2003